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DATE: Wednesday, June 04, 2003

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DB=USPT,PGPB,JPAB,EPAB,DWPI; PLUR=YES; OP=ADJ			
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☑	5759851	all	all	13	USPT,PGPB,JPAB,EPAB,DWPI
☑	5766949	all	all	7	USPT,PGPB,JPAB,EPAB,DWPI
☑	4996154	all	all	10	USPT,PGPB,JPAB,EPAB,DWPI
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L6: Entry 80 of 311 File: USPT Feb 1, 2000

DOCUMENT-IDENTIFIER: US 6020148 A
TITLE: In vitro method for eye and skin irritation testing

Brief Summary Text (5):
Previously a skin keratinocyte Neutral Red assay method for in vitro assessment of skin Irritation was developed for testing chemical ingredients. (Osborne, R. and Perkins, M. A. (1990), "In Vitro Skin Irritation Testing with Human Skin Cell Cultures", Toxic in Vitro 5, 563-567, U.S. patent application Ser. No. 07/647,379, filed Jan. 28, 1991). These keratinocyte cell cultures are submerged in an aqueous buffered medium during the testing. Therefore any material which is added to the culture must also be soluble in the buffered medium used to grow this culture. Any test materials must be compatible with water and able to be diluted. Therefore, these systems are limited in their ability to predict the irritancy potential for aqueous incompatible materials, solid or gel-like product formulations, and acids or bases which would react with the buffer. Moreover, cultures which are submerged in a buffered medium cannot mimic the in vivo topical application methods in which neat materials are applied directly to the eye or skin surface.

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L6: Entry 97 of 311 File: USPT Jul 14, 1998

DOCUMENT-IDENTIFIER: US 5780281 A
TITLE: Method of preparing a low-density porous fused-fiber matrix

Detailed Description Text (73):
In one general embodiment, the matrix of the invention is used to support cell growth in a cell culture system in vitro. FIGS. 10A-10C illustrate three cell culture configurations, in accordance with the invention. The configuration illustrated in FIG. 10A uses a fiber matrix 96 of the type shown in FIG. 1A, having a lattice of channels, such as channels 98, extending through the matrix. The matrix is supported in a culture vessel 100 partially filled with culture medium 102. The medium is pumped into and through the matrix, as indicated, by a pump 104. The system further includes a filter 106 placed in-line with the pump for extracting desired cell products and/or purifying the medium of cell bi-products. Suitable heating and gas-supply means for maintaining desired gas and temperature control of the medium may also be employed, as well as means for replenishing the medium. FIG. 10B shows a cell culture configuration which utilizes the a multi-plate matrix, like the one shown in FIG. 1B, and indicated here at 110. As shown, the plates in the matrix are submerged in a suitable cell culture medium 112 in a vessel 114, and the medium is circulated, through the plates by a pump 116. The configuration may also include a filter and culture control means, as indicated above.

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L6: Entry 99 of 311 File: USPT Jun 16, 1998

DOCUMENT-IDENTIFIER: US 5766949 A
TITLE: Method and apparatus for cultivating anchorage dependent monolayer cells

Brief Summary Text (9):
Cell culture systems with culture medium circulating systems are advantageous for replenishment of the culture medium and removal of metabolites. In such systems, cells are constantly submerged in their culture media, and the rate of the culture media is controlled so as to supply sufficient nutrients and dissolved oxygen for cells.

CLAIMS:

1. An apparatus for cultivating cells comprising:

a cell culture chamber having inlet and outlet means;

substrate means mounted inside said cell culture chamber for holding cells;

means for circulating a culture medium from said outlet means to said culture chamber through said inlet means, said circulating means being connected to said inlet and outlet means and operative to alternately raise and lower the level of the culture medium relative to said substrate means between a high level to submerge cells held by said substrate means in the culture medium and a low level to expose cells held by said substrate means to a gaseous environment present above the level of the culture medium, said circulating means being capable of causing the culture medium to flow in through said inlet means depending on the arrival of the culture medium level at said low level and causing the culture medium to flow out through said outlet means depending on the arrival of the culture medium level at said high level.

15. A method for cultivating cells comprising:

(a) providing a cell culture chamber with an inlet means, an outlet means, and substrate means;

(b) feeding a culture medium containing cells into said cell culture chamber and allowing cells to attach to said substrate means;

(c) circulating the culture medium from said outlet means to said culture chamber through said inlet means and alternately raising and lowering the level of the culture medium during cell growth between a high level to submerge cells held by said substrate means in the culture medium and a low level to expose cells held by said substrate means to a gaseous environment;

(d) controlling the outflow of the culture medium through said outlet means depending upon the arrival of the culture medium at said high level; and

(e) controlling the inflow of the culture medium through said inlet means depending upon the arrival of the culture medium at said low level.

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L6: Entry 100 of 311 File: USPT Jun 2, 1998

DOCUMENT-IDENTIFIER: US 5759851 A
TITLE: Reversible membrane insert for growing tissue cultures

Brief Summary Text (1):
This invention relates to devices and methods for growing cells or tissue in vitro. More particularly, this invention relates to growing tissue, cells or cell lines on opposite faces of a sterile cell or tissue retention member submerged in tissue culture media and/or positioned at the media/air interface.

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L6: Entry 148 of 311 File: USPT Feb 26, 1991

DOCUMENT-IDENTIFIER: US 4996154 A
TITLE: Method for growing cellular tissue

Detailed Description Text (9):
After the surface of the cell-growth substrate has been prepared, cells of interest are seeded onto the substrate whereby the cells are contacted with the growth factors to form a cell culture. The seeded cell-growth substrate is then maintained under conditions suitable for cell growth to produce monolayer sheets of tissue. Further cell growth will result in multilayered tissue which is differentiated. After the cells have grown for several days, the culture can be raised to the air/liquid interface where the cells can further differentiate to yield tissue similar to its in vivo counterpart. Alternatively, the cells can be maintained as a submerged culture. Tissue grown by the methods of this invention can be subsequently removed from the substrate and harvested.

Detailed Description Text (35):
The keratinocyte cells attached to the collagen substrate within 24 hours. The submerged culture of cells grew to a confluent monolayer and began to stratify between days 4-8. The cultures also exhibited a significant electrical resistance between days 4-8, of about 150-200 ohms cm.sup.2, which indicated that the keratinocyte cell sheet was uniform and coherent. The cultures were raised to the air/liquid interface between days 4-8 for further differentiation and keratinization of the culture.

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L6: Entry 257 of 311 File: DWPI Dec 29, 1992

DERWENT-ACC-NO: 1993-026937
DERWENT-WEEK: 199303
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TITLE: Kit for growing keratinocytes to tissue for toxicity testing in vitro - has microporous substrate coated with collagen to which specific growth factors are attached

Basic Abstract Text (1):
A kit for evaluating the toxic effects of a substance (I) on tissue in vitro comprises: (1) a polymeric, microporous, cell-growth substrate (A), coated with a material which supports cell growth and has been treated for attachment of growth factors (GF); the substrate is suitable for growing keratinocytes and includes specific GF dispersed within and attached to it; (2) a tissue of keratinocytes grown on the substrate in the absence of a second cell type, the tissue being a confluent monolayer or uniformly differentiated multilayer in a submerged culture or at the air-liq. interface, and (3) one or more reagents for determining toxicity of (I).